DRAFT Programmatic Environmental Assessment

SPA 124 Permitting by Montana Fish, Wildlife & Parks
of Culverts, Bridges, and Removal of Beaver Dams

November 23 2015

Montana Fish, Wildlife & Parks

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1.0 PURPOSE OF AND NEED FOR ACTION

1.1 Proposed Action

This Programmatic Environmental Assessment (EA) is intended to satisfy requirements of the Montana Environmental Policy Act (MEPA) for the installation of new or modification of existing culverts or bridges and the removal of beaver dams or beaver-created obstructions that may affect the natural existing shape and form of any stream or its banks or tributaries. These activities are regulated under section 87-5-502 et. seq. of the Montana Code Annotated (MCA), also known as the Montana Stream Protection Act (SPA) or the SPA 124 Permit Program. Authorizations issued under this statute do not relieve applicants of the responsibility to obtain other applicable permits.

The SPA states an agency of state government, county, or municipality (applicant) shall not construct, modify, operate, maintain, or fail to maintain any construction project or hydraulic project which may or will obstruct, damage, diminish, destroy, change, modify, or vary the natural existing shape and form of any stream or its banks or tributaries by any type or form of construction without first notifying Montana Fish, Wildlife & Parks (MFWP).

The main purpose of the SPA 124 Permit process is to prevent lasting negative effects on fish and game habitat. The applicant must develop construction plans that minimize the magnitude of any change in fish or game habitat due to disturbances to vegetation and alterations to water quality or quantity. The applicant must describe the construction activity, site characteristics, and best management practices that would be employed to minimize impacts to physical resources to the extent practicable.

Under SPA, MFWP must determine whether the construction or hydraulic project will adversely affect any fish or game habitat. Within 30 days after the receipt of the project plans, MFWP is required to notify the applicant of their determination. If MFWP notifies the applicant that fish or game habitat would be adversely affected by the proposed project, MFWP would provide recommendations or alternative plans to diminish or eliminate the adverse effects.

The intent of the proposed action is to ensure MFWP's review of SPA permit application is completed within 30 days, and that MFWP's review meets the requirements of MEPA as well. Currently challenges between these two review processes do occur, in that a meaningful review of the project under MEPA may not be completed within the SPA 124 30-day review timeframe.

In order to reduce the potential for such conflicts, MFWP is completing a meaningful review of potential impacts to the human environment by the installation of new or modification of existing culverts or bridges and the removal of beaver dams or beaver-created obstructions in this document. Typically these types of projects are proposed by the Montana Department of Transportation (MDT), US Forest Service (USFS), and in the case of beaver-related obstructions, city and county offices. Projects planned by MDT and USFS are designed to meet their respective organization's Best Management Practices (BMP) and adhere to standardized engineering designs in order to provide safe public transportation routes while minimizing impacts to water, vegetation, and wildlife resources through mitigation and design measures.

MDT and USFS design standards and BMP's can be located through the following links, and key points of those documents are referenced in the appropriate "Project Type" sections later in this document.

- MDT:
  - Maintenance Environmental Best Management Practices - http://www.mdt.mt.gov/publications/docs/manuals/mmanual/sectione.pdf
  - Special Culvert Installation Guidelines and Details - http://www.mdt.mt.gov/other/webdata/external/cadd/design_memos/2009-02-20_SPECIAL_CULVERT_INSTALL_GUIDE.PDF
  - Special Considerations, Bridges - http://www.mdt.mt.gov/business/contracting/bridge.shtml
- USFS:
  - National Best Management Practices for Water Quality Management on National Forest System Lands - http://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf

1.2 Types and Sizes of Projects Covered by This EA:

- Culverts – May apply to the installation of new or replacement steel, concrete, or plastic culverts 100 feet or less in length.
- Bridges – May apply to replacement or new and various sizes.
- Beaver Dam or Beaver-created Obstruction Removal – May apply to projects where mechanical or hand removal is employed. Explosives are excluded.

1.3 Location: Statewide

1.4 Overlapping Jurisdictions

The three types of projects evaluated in this document may require additional local, state, or federal permits. As such, the following is a summary of those permitting agencies that may have overlapping jurisdictions according to the Guide to Stream Permitting in Montana (http://dnrc.mt.gov/licenses-and-permits/stream-permitting).

City or County Floodplain Administrator (Floodplain Permit): Required for new development within designated Special Flood Hazard Areas. The purpose of the permit is to promote the public health, safety and general welfare of the residents, and to minimize public and private losses due to flood conditions in Regulated Flood Hazard Areas.

Montana Department of Environmental Quality (318 Authorization & 401 Certification): 318 Authorizations: Required for construction activity that will cause short-term or temporary violations of state surface water quality standards for turbidity. The purpose of this permit is to provide a short-term water quality turbidity standard for construction activities in accordance with conditions prescribed by the Department of Environmental Quality, to protect water quality, and to minimize sedimentation.

401 Certifications: Required for an activity that will result in the discharge or placement of dredged or fill material into waters of the United States. The purpose of the certification is to protect water quality and ensure that a federally permitted activity (404 Permit) will not cause unacceptable environmental impacts.

Montana Department of Natural Resources and Conservation (Navigable Rivers Land Use License or Easement): Required the construction, placement, maintenance, or modification of a structure or improvements in, over, below, or above a navigable river. The purpose of the permit is to protect riparian areas and the navigable status of the water body, and to provide for the beneficial use of state lands for public and private purposes in a manner that will provide revenues without harming the long-term capability of the land or restricting the original commercial navigability.

US Army Corps of Engineers (Section 404 & Section 10 Permits): The Section 404 permit is required if a project will result in the discharge or placement of dredged or fill material into waters of the United States. Waters of the U.S. include the area below the ordinary high water mark of stream channels, lakes or ponds connected to the tributary system, and wetlands adjacent to these waters. The purpose of this permit is to restore and maintain the chemical, physical, and biological integrity of the nation's waters under the requirements of the Federal Clean Water Act.

The Section 10 permit is required for any alteration of, or any construction activity in, on, under, or over any federally listed navigable water of the United States. Navigable waters in Montana are: the entire Missouri River from Three Forks downstream; the Yellowstone River from Emigrant downstream to its confluence with the Missouri River; and the Kootenai River from the Canadian border downstream to Jennings, Montana (just upstream of Libby, MT). The purpose of this permit is to protect the quality and quantity of navigable waters of the United States under the requirements of the Federal Rivers and Harbors Act.

In addition to other permitting described above for influences to water ways, MFWP also requires a damage permit for the lethal removal of beaver by a landowner when its dam or obstruction endangers public health or private property.

2.0 ALTERNATIVES

2.1 Alternative A: No Action

Under the No Action Alternative, MFWP would continue to evaluate 124 Permit applications on a case-by-case basis to determine if adverse affects would occur to fish and game habitat. The challenges of completing the SPA 124 application review within 30 days, and completing a meaningful analysis of impacts and engaging the public in the analysis under MEPA, would continue to be an issue for MFWP staff. MFWP staff would continue to attempt to complete both review processes within the SPA 30-day period.

No direct, secondary or cumulative impacts to the human environment are expected to occur if the current review process is maintained.

2.2 Alternative B: Proposed Action

In order to alleviate the challenge of completing both the SPA and MEPA review processes within 30 days, MFWP proposes to meet the requirements of MEPA through the evaluation of effects to human environment, including fish and game habitat and numerous other resources as defined in 12.2.429 (12) ARM, in this document for the installation of new (or modification of existing) culverts or bridges, and the removal of beaver dams or beaver-created obstructions.

Identical to Alternative A, MFWP would continue to evaluate 124 Permit applications for the installation of new (or modification of existing) culverts or bridges, and the removal of beaver dams or beaver-created obstructions on a case-by-case basis to determine if adverse affects would occur to fish and game habitat. MFWP's experience in reviewing SPA 124 permit applications over the past 34 years has shown the applicant's ability to design features into their plans to minimize or eliminate impacts to fish and game habitat is successful most of the time. Thus, MFWP believes a programmatic review would be a practical step in elevating the SPA and MEPA review challenge for some types of projects.

All SPA 124 permit authorizations would continue to be returned to the applicant with a list of general permit conditions that describes the steps to be taken by the applicant to minimize and mitigate disturbances to water resources, soils, vegetation, and aquatic resources. (See Appendix A for the complete list of these conditions.) In addition to the general permit conditions, authorizations for culvert installations and removals also include MFWP's recommendations for projects in perennial, intermittent, and ephemeral streams to minimize potential impacts to existing resources. (See Appendix B for a copy of those recommendations.)

Those projects that are atypical, very large in scope (e.g., culverts over 100 feet in length) or may pose a threat to fish and game habitat and/or significant impact to the human environment may require a more in-depth assessment process to satisfy either SPA and MEPA. Thus, the challenges described in Alternative A would likely occur.

3.0 AFFECTED ENVIRONMENT & PREDICTED ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVE B

3.1 Culverts

In Montana, there are thousands of culverts used predominately for the passage of water under roadways, but they are also used for wildlife and livestock passage under roadways. Culverts can be various sizes, shapes (round, oblong, or square), and made from different materials (e.g., steel, concrete, or plastic). The choice of size, shape, and material is often dictated by engineering requirements, the width of the water body, and the hydraulic capacity of water channel, and is designed to accommodate a given discharge event. Depending upon the type of culvert and soil conditions present, its useful life is 30 years on average.

The main culvert features preventing fish passage include: a perched outlet, too great a velocity, too shallow a depth, or too long a distance between resting pools (Tillinger & Stein 1996). Burford (2005) assessed fish passage in the Clearwater River drainage in Montana for 46 culverts across a wide range of stream discharges. Burford's research showed the culverts were restricting passage to upstream habitats that may be important for spawning, growth, and survival, but they were generally not isolating populations nor serving as barriers to protect native species from non-native species encroachment. Biological (fish species, size, jumping ability, and timing of seasonal migrations) and hydraulic (flow rates during migration periods and type, roughness, length, and slope of culvert) features also influence fish passage (Burford 2005).

In addition to providing water passage, culverts are also used by terrestrial species and provide conductivity between habitats. A modified culvert is adaptively designed for use by small- and medium-sized wildlife associated with riparian habitats or irrigation canals. Adapted, dry platforms or walkways can vary in design, and are typically constructed on the lateral interior walls of the culvert and above the high-water mark (Clevenger & Huijer 2011).

Over time, culverts can become functionally obsolete or fail due to natural processes. Major failures may include overtopping (backwater of culvert increases beyond the height of the roadbed), buoyancy failure (uplifting forces bend the ends of the culvert up or displace the culvert), or structural collapse of culvert. Other issues that may be present include: corrosion, sedimentation, physical blockage, joint separation, and physical damage from debris or vehicle impacts (Baker 2001).

Beyond their effects on associated roadways and bridges, culvert failures can negatively affect fish habitat and fish passage. The health of a drainage is tied to the amount of sedimentation occurring in a stream. The addition of roadway culverts into a stream has been shown to cause erosion and sedimentation problems, if the culvert does not meet stream characteristics of slope, bankfull/width, and channel orientation (Pavlick 2011). Increased sedimentation, in particular fine sediments, can have adverse effects on aquatic flora, as well as fish and invertebrate communities. Large amounts of suspended fine sediments can limit light penetration. In areas with an abundance of fine deposits, the particles can actually smother in-stream fauna (Wood and Artimage 1997). Salmonids use stream systems for spawning, migration, and juvenile rearing. They typically build their nests in an area with plenty of in-stream cover, low fine particulate embedment, and abundant food sources (Bates 2003). Harrison (1923) showed that the deposition of large amounts of fine sediments dramatically reduces the survival rate of salmon eggs.

MFWP, MDT, and US Forest Service (USFS) developed Best Management Practices (BMPs) for work performed to operate and maintain road systems under their respective jurisdictions. The BMPs were developed to provide consistent guidance for minimizing and avoiding impacts to the environment, as well as methods to meet state and federal water quality laws. In addition to the BMPs, projects that occur within streambeds, stream banks, wetlands, or floodplains likely require additional permits (e.g., 318 permit, 404 permit, etc.), which will have their own specific conditions and requirements. See Section 1.4 for descriptions of overlapping permit jurisdictions.

MFWP installs culverts for road crossings at its fishing access sites, state parks, and wildlife management areas. MFWP's BMPs (2008) for the installation of culverts include guidelines to: 1) use structures to minimize sediment from entering the waterbody, 2) use culverts that are at least as wide as the bank full width and pass a minimum of a 25-year event, 3) install culverts to conform to the natural streambed and slope that support fish passage, and 4) reclaim disturbed areas after construction activities.

MDT's culvert BMPs (2002) include instructions to: 1) install erosion/sediment control, 2) contain/remove materials flushed from culverts, 3) complete work at low flow, when possible, and 4) incorporate fish passage solutions. In addition to the 2002 BMPs, MDT established Special Culvert Installation Guidelines (2009) to address conditions that may occur for large culverts (10 foot diameter or greater) and provide alternative installation and backfill techniques to minimize potential culvert settling.

The objectives of USFS BMPs for stream crossings, including culverts and bridges, are to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources when constructing, reconstructing, or maintaining temporary and permanent waterbody crossings. Their BMPs are incorporated into numerous design recommendations to provide for flow of water, bedload, and large woody debris, for desired aquatic organism passage, and to minimize disturbance to the surface and shallow groundwater resources. Specific to fisheries, BMPs recommend the use of bottomless arch culverts, where appropriate, to allow for natural channel migration and to install or maintain fish migration barriers only where needed to protect endangered, threatened, sensitive, or unique native aquatic populations, and only where natural barriers do not exist. Measures and mitigations identified include: 1) use of culverts with bankfull dimensions of width, depth, and slope to permit a normal range of water flows at the site, 2) use of roadway stabilization measures to avoid or minimize water and sediment from being moved into the stream, 3) use of methods to mitigate damage to the waterbody and banks during construction, and 4) installation of culverts long enough to extend beyond the toe of the fill slopes to minimize erosion (USFS 2012).

Predicted Impacts of Alternative B:

MFWP anticipates there would be a minor positive direct effect in the issuance of SPA 124 permits for the installation of new or modification of existing culverts or bridges because the department would ensure the permit application is reviewed and a reply provided to the applicant within the 30-day timeframe, and the department would meet the requirements of MEPA (resource analysis and public review) through completion of this programmatic review EA. Consequently, any review-process challenges, as described in section 2.1, would be eliminated. MFWP would continue to review all SPA 124 permit applications to determine if fish and game habitat would be adversely affected by the project.

MFWP does not believe any secondary impacts would occur for meeting the analysis requirements of the human environment under MEPA from the implementation of the programmatic review. In Appendix C, MFWP analyzed typical actions that take place when a culvert is either installed or replaced compared to the significance of impact criteria defined in 12.2.431 ARM. The evaluation of the typical culvert construction actions, with the application of agency-associated BMPs, confirmed impacts to the site's existing resources, including fish and game habitat, are most often mitigated through project planning and design. Furthermore,

MFWP staff monitors the progress of the construction/replacement phases to ensure the applicant is adhering to the conditions of the 124 Permit. If problems arise, MFWP has the authority to adjust the special conditions of the permit to further minimize effects to fish and game species and their habitat.

3.2 Bridges

According to MDT, there are approximately 5,000 bridges within Montana, of which MDT is responsible for 3,000 (MDT 2014). Depending upon the materials used in the construction, the useful life of a bridge can be between 30-50 years.

As with culverts, MFWP, MDT, and USFS developed BMPs for the maintenance and construction/replacement of bridges under their respective jurisdictions. MFWP's BMPs for bridges are identical to those described for culverts.

Bridges are designed with the principal objective of transporting water under roadways or passing one roadway over another. Less consideration is given to ecosystem processes such as hydrology, sediment transport, stream geomorphology, fish and wildlife passage, or wildlife habitat. Bridges may result in direct loss or fragmentation of habitat, and increase the disruption of ecosystem processes. Changes in hydrology as a result of bridged crossings can alter dimension, pattern, or profile of stream geomorphology. They have the potential to cause significant changes to stream morphology for considerable distances both above and below the bridge (Arizona Fish & Game 2008).

Many of the methods described to avoid or minimize effects to the environment, including fish and game habitat, for MDT and USFS bridge projects are the same as the ones described for the installation of culverts. However, because the scope and size of a bridge project can be larger than for a culvert, both agencies are required to meet additional consultation requirements with federal or state agencies to assess if or how their project would affect cultural or wildlife species resources per the National Environmental Policy Act. Depending upon the assessments generated by those consultations, bridge design features may be adjusted to avoid or minimize impacts to those resources.

Beyond design measures that are being incorporated to reduce impacts to species, use of prefabricated bridge elements and systems make construction less disruptive for the environment. Using prefabricated substructure elements reduces the amount of heavy equipment required and the amount of time required on-site for heavy equipment, causing less disruption to sensitive environments (AASHTO 2014).

Predicted Impacts of Alternative B:

MFWP anticipates there would be a minor positive direct effect in the issuance of SPA 124 permits for the installation of new, or modification of existing, bridges because the department would ensure the permit application is reviewed and a reply provided to the applicant within the 30-day timeframe; and the department would meet the requirements of MEPA (resource analysis and public review) through completion of this programmatic review EA. Consequently, any review process challenges, as described in section 2.1, would be eliminated. MFWP would continue to

review all SPA 124 permit applications to determine if fish and game habitat would be adversely affected by the project.

MFWP does not believe any secondary impacts would occur for meeting the analysis requirements of the human environment under MEPA from the implementation of the programmatic review. In Appendix D, MFWP analyzed typical actions that take place when a bridge is either installed or replaced compared to the significance-of-impact criteria defined in 12.2.431 ARM. The evaluation of the typical bridge construction actions, with the application of agency-associated BMPs (e.g. MDT or USFS), confirmed impacts to the site's existing resources, including fish and game habitat, are most often mitigated through project planning and design. Furthermore, MFWP staff monitors the progress of the construction/replacement phases to ensure the applicant is adhering to the conditions of the 124 Permit. If problems arise, MFWP has the authority to adjust the special conditions of the permit to further minimize effects to fish and game species and their habitat.

3.3 Beaver Dams

Beavers (*Castor canadensis*) are found throughout Montana, but they are most common in western areas of the state. No formal population studies have been completed; however, based on observations by MFWP staff and other anecdotal information, population levels are expanding in some areas of the state, primarily west of the continental divide, and are very low or non-existent within prairie streams.

Beavers will inhabit nearly any water source that has a reliable and plentiful supply of nearby food, but they prefer water systems characterized by low water flow. Stream and lake habitats are used heavily, but beavers also may be found in farm ponds, wetlands, and riparian areas. Dams and lodges usually occur during late summer and early fall. Dams can range from 2-10 feet in height and can extend more than 100 feet in length. In most situations, once water has reached a minimum depth of 24+ inches, the beavers will start construction of living quarters (lodges). Beavers are herbivores and will consume a wide variety of aquatic plants and trees, grasses, sedges and other varieties of trees and woody underbrush that can grow near water, depending upon the season (Newbill and Parkhurst 2009).

Beavers create beaver ponds through their woodcutting and dam-building activities. Beaver dams create lentic (lake) habitat in an otherwise lotic (stream) system. These ponds retain sediment and organic matter in the channel, create and maintain wetlands, modify nutrient cycling and vegetation decomposition, modify the structure and dynamics of the riparian zone, alter hydrologic regimes, and influence the character of water and materials transported downstream. These habitats are rich mosaics of diversity that are beneficial hydrologically, biologically, and socially (Mckinstry and Anderson 2002). Beaver ponds have the ability to trap and store large amounts of sediment, increase the retention time of water (thus reducing pollutant loads), and hold and release water (thus allowing intermittent and ephemeral streams to flow longer and at a more constant rate) (MT DEQ 2014).

Ducks and other waterfowl, as well as many reptiles, amphibians, and aquatic insects, are attracted to beaver ponds. However, impaired flow and removal by beavers of woody vegetation along the shoreline can raise the water's temperature and allow more sediment to collect behind

the dam. Lower dissolved oxygen levels and higher water temperatures may favor some organisms at the expense of others (e.g., trout and aquatic insects dependent upon cool, flowing waters) (Newbill and Parkhurst 2009) .

Beaver ponds can provide important winter habitat for many stream fishes, and the importance of impoundments increases in streams lacking large deep pools (Cunjak 1996). In general, it appears that beaver are more beneficial to salmonids in coldwater streams of mountainous or semi-arid areas than they are in warmer streams of lower altitudes. Rasmussen (1941) reported they beneficially created deep pools with shade and cover for fish in coldwater mountain streams in Utah, and Alexander (1998) found that growth indices were greater for individual fish that occupy such impoundments. Salyer (1935) and Reid (1952), however, found beaver to be generally harmful (by hindering passage) to fish in lowland streams.

Niles, et al. (2013) studied the removal of beaver dams and responses of fisheries and associated habitat, and the results showed the presence and subsequent removal of a beaver pond from a brook trout stream can be considered both beneficial (increased connectivity) and harmful (increased competition for space and resources, and subsequent trout population reduction). Removal or collapse of a beaver dam has considerable impacts on in-stream fauna and the surrounding landscape. While most natural collapses of dams occur over several years of decay, the occasionally rapid collapse of dams has a dramatic impact. Removing the dam slowly and drawing the water down allowed resident trout to more easily adjust to the changes in water quality, water depth, and habitat availability.

Although beavers and their activities do provide positive environmental effects, their activities can also create hazards and problems for landowners. Problem situations may include: an impoundment that threatens downstream property, upstream flooding of land, trees killed or damaged, flooding of highways or railroads, impairment of drainage, flooding of agricultural crops, and flooding of homes (Vermont Department of Environmental Conservation 2004).

Because beaver dams and other impediments can cause these problem situations, the removal of a beaver dam may be necessary to protect public or private property from damage. Because dams can, and often do, impound sediment behind them, the removal or breach of the dam allows sediments to travel downstream, temporarily increases water volume downstream, and may affect wildlife and their habitat. With removal of a beaver dam and release of the pond's water, stream beds or banks may be affected, thus triggering the need for an SPA 124 Permit.

Predicted Impacts Alternative B:

MFWP anticipates there would be a minor positive direct effect in the issuance of SPA 124 permits for the removal of beaver dams or beaver-related obstructions because the department would ensure the permit application is reviewed and a reply provided to the applicant within the 30-day timeframe, and the department would meet the requirements of MEPA (resource analysis and public review) through completion of this programmatic review EA. Consequently, any review-process challenges as described in section 2.1 would be eliminated. MFWP would continue to review all SPA 124 permit applications to determine if fish and game habitat would be adversely affected by the project, including the timing of the proposed dam removal related to fish egg incubation and the number of dam removals in relationship to a particular stream reach.

MFWP does not believe any secondary impacts would occur for meeting the analysis requirements of the human environment under MEPA from the implementation of the programmatic review. In Appendix E, MFWP analyzed typical actions that take place when a beaver dam or obstruction is removed, compared to the significance of impact criteria defined in 12.2.431 ARM. The evaluation of the removal of a beaver dam or beaver-related obstruction, typically with the some consultation with MFWP regional wildlife staff, reflects impacts to the waterway and associated resources (e.g., wildlife, fisheries, and vegetation) that are minor, short-term, and do not jeopardize the status of beaver or any fish species within the State.

If the physical or lethal removal of the beaver is planned in conjunction with the dam removal, a MFWP-issued damage permit is required that would specify how many beavers can be removed in order to protect public safety and/or private property. This type of permit is issued by the MFWP regional wildlife biologist or enforcement officer.

3.4 Cumulative Effects

No cumulative impacts are expected if MFWP adopts the analysis in this programmatic EA for the evaluation of impacts to fish and game habitat for SPA 124 Permit applications in order to improve the department's ability to adhere to the 30-day application review period as required by the Act. MFWP would continue to scrutinize permit applications for potential changes to fish and game habitat for the installation or modification of culverts and bridges and the removal of beaver dams. If applicants' plans do not provide adequate steps to mitigate impacts to fish and game habitat, MFWP would provide guidance to the applicant for the reduction of those impacts as required by the Act.

4.0 NEED FOR AN ENVIRONMENTAL IMPACT STATEMENT

Based on the evaluation and analysis completed in this document, MFWP has determined an environmental impact statement is not required. Potential predicted impacts to the human environment of the proposed action do not trigger direct or secondary impacts that are significant based on the criteria described at 12.2.431 ARM (See Appendices C-E for significance summaries).

5.0 PUBLIC PARTICIPATION

5.1 Public Involvement

Public notification of the EA release and opportunities to comment will be by:

- A statewide press release;
- Two legal notices: *Helena Independent Record, Great Falls Tribune, Billings Gazette, Bozeman Daily Chronicle, Missoulian, and Daily Inter Lake (Kalispell).*
- Direct mailing to interested parties;
- Public notice on the Fish, Wildlife & Parks web page: *http://fwp.mt.gov*

Copies of this EA will be available for public review at all FWP Regional Headquarters and on the FWP web site.

A public meeting will be held at 6:00 pm on December 14, 2015 at Montana WILD, 2668 Broadwater Avenue, Helena. At this meeting the public will have a venue to submit comments and have questions answered by FWP staff.

5.2 Comment Period

The public comment period will extend for (30) thirty days. Written comments will be accepted until 5:00 p.m., December 23, 2015 and can be mailed to the address below:

SPA 124 Permit Programmatic EA
MFWP – Fisheries Division
PO Box 200701
Helena, MT 59620 or email comments to: jferree@mt.gov

5.3 Offices & Programs Contributing to the Document

Montana Department of Transportation, Environmental Services Bureau, Helena, MT
Montana Department of Environmental Quality, Helena, MT
Montana Fish, Wildlife & Parks
Fisheries, Helena, MT
Legal, Helena, MT

6.0 EA PREPARATION

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APPENDIX A

MFWP Stream Protection Act 124 Permit General Conditions

1. Complete work affecting a streambed or stream bank in an expeditious manner to avoid unnecessary impacts to the stream.

2. Limit the clearing of vegetation to that which is absolutely necessary for construction of the project. Take precautions to preserve existing riparian vegetation. Salvage and reuse native vegetation where possible.

3. Install and maintain erosion control measures where appropriate to protect aquatic resources. Do not clear and grub land adjacent to streams prior to installing proper erosion and sedimentation controls. Conduct all work in a manner that minimizes turbidity and other disturbances to aquatic resources.

4. Plan temporary construction facilities to:

    a. Minimize disturbance to stream banks, stream bank vegetation, and the streambed by locating staging or storage facilities at least 50 ft horizontally from the highest anticipated water level during construction;
    b. not restrict or impede fish passage in streams; and
    c. not restrict any flow anticipated during use.

5. Provide sediment controls for drainage from topsoil stockpiles, staging areas, access roads, channel changes, and instream excavations.

6. Isolate work zones from flowing and standing waters to prevent turbid water and sediments from being discharged into streams or other drainages that flow directly into the stream. Divert flowing waters around the work zone.

7. Do not spill or dump material into streams. Store and handle petroleum products, chemicals, cement and other deleterious materials in a manner that will prevent their entering streams.

8. Do not permit wash water from cleaning concrete-related equipment or wet concrete to enter streams.

9. Do not operate mechanized equipment in any stream or flowing water unless special authorization is obtained. If special authorization is granted, the following conditions apply:

    a. Power wash all equipment allowed in a stream prior to entering the stream channel.
    b. Clean and maintain all equipment so that petroleum-based products and hydraulic fluids do not leak or spill into the waterway.

10. Reclaim streambeds and stream banks as closely as possible to their pre-disturbed condition.

11. Restore disturbed stream banks to their natural or pre-disturbed configuration to match adjacent ground contours or as specified in the project plans. Stabilize, reseed, and re-vegetate disturbed areas. Install and maintain long-term, biodegradable, erosion-control measures to protect these areas until adequate vegetation has been established.

12. Restore temporary access routes and any temporarily disturbed areas to original conditions, including original contours and vegetation.

13. Dispose of any excess material generated from the project above the ordinary high water mark and in an area not classified as a wetland.

APPENDIX B

MFWP Recommendations for Temporary Stream Diversions and Culvert Installation and Removal on Perennial, Intermittent, and Ephemeral Streams

This document is intended to be guidance for development of detailed stream diversion plans that should be included with the Joint Application for Stream Protection Act (SPA) 124 permit that applies to Temporary Facilities. A detailed diversion plan should be developed for each stream crossing. This guidance document is intended to be used in conjunction with the Standard Specifications for Road and Bridge Construction and project Special Provisions.

Please refer to the FWP SPA 124 Application Requirements Checklist (attached below) to ensure that all required information is included in the Joint Application.

General Guidelines – All Stream Types

1. Complete stream-related work in an expeditious manner to protect aquatic resources.
2. Perform stream-related work during seasonal low/no-flow conditions unless otherwise specifically authorized by FWP.
3. Minimize disturbance to riparian vegetation and streambed and banks.
4. Install and maintain Best Management Practices (BMPs) for temporary erosion and sediment control during construction.
5. Install long-term, erosion-control BMPs immediately after stream-related work is complete.

Stream Diversions – All Stream Types

1. Keep temporary stream diversions to the minimum length necessary to complete the work.
2. Design temporary stream diversions to pass all anticipated flows during the construction window.
3. Construct temporary dikes from sandbags, fabric-wrapped straw bales, earthen material wrapped in fabric, or other approved methods to divert the entire flow down the bypass channel.
4. If needed, construct a temporary dike on the downstream end of the construction zone to prevent backwatering of the construction site.
5. Provide detailed plans showing methods to divert stream flow around the construction site using one or more of the following methods, or other approved methods:
    a. A temporary, lined channel
    b. A temporary culvert
    c. A combination of a temporary, lined channel and culvert
6. If pumping water around the site, FWP must approve it. Discharge pumped water to an upland site; it cannot return to a water body unless an appropriate National or Montana Pollutant Discharge Elimination System (NPDES or MPDES) permit has been obtained. The Montana Department of Environmental Quality issues Construction Dewatering Permit Authorizations on non-reservation lands and specifies the appropriate BMPs for protecting water quality. On reservation lands, the U.S. Environmental Protection Agency

typically authorizes construction-dewatering activities under its NPDES General Permit for Stormwater Discharges from Construction Activities.

7. Upon completion of the designed stream crossing, remove all material used in the temporary bypass a minimum of 50 feet from the site, and return the site to pre-project conditions, including land contours and vegetation, or according to project plans. Use erosion-control BMPs to protect the disturbed ground as necessary.

Ephemeral/Intermittent Streams (Non-Fishery)

1. Work initiated in the dry does not require a stream diversion method to be in place prior to beginning construction. Regardless, provide FWP with a contingency stream diversion plan. Ensure that materials needed to implement the plan are on-site prior to beginning construction.
2. If a stream begins flowing during the installation of a culvert, stop all work and implement the contingency stream diversion plan before resuming work. Notify FWP that the stream diversion has become necessary and is being installed.

Intermittent/Perennial Streams (Fishery)

1. Implement the approved stream-diversion plan prior to initiating work inside the wetted perimeter of any stream.
2. Install stream diversions to provide for fish passage at all expected flows.
3. If any fish, both game and non-game, are stranded during the dewatering process, the contractor is required to safely move the fish to the nearest free-flowing water. The contractor may contact the FWP Regional Fisheries Biologist or Montana Department of Transportation District Biologist to assist in fish relocation.

FWP - Stream Protection Act (SPA 124)
Application Requirements Checklist
Temporary Facilities

The following is a checklist that should be used prior to submitting a SPA 124 application to Montana Fish Wildlife & Parks (FWP). If any applicable component of this checklist is missing in the Joint Application for Proposed Work in Montana's Streams, Wetlands, Floodplains, and Other Water Bodies the application may be considered incomplete. FWP will not process any SPA 124 application that is determined to be incomplete until all necessary information is received.

For all projects have you included the following?

- ☐ A topographic map or aerial photo showing the locations of all stream-related work. Ensure that all named drainages within the project area are labeled.
- ☐ The location of the nearest town, the Township, Range and Section, and/or the Latitude and Longitude of the proposed facility/facilities.
- ☐ The anticipated time of year and length of time the temporary facility/facilities will be in place.
- ☐ A description of the construction sequencing, access, dimensions, and the method of installation and removal of all temporary stream diversions, work bridges, etc.

- A general contingency stream diversion plan for drainages where a diversion will only be necessary during unexpected flow.

For all temporary stream diversions have you included the following?

- A plan sheet or drawing indicating the length of diversion and materials that will be used to construct the diversion.
- The dates the diversion is expected to be in place.
- Culvert size(s), if any are being used for the diversion, and evidence that the chosen culvert size(s) are large enough to handle anticipated high flows.
- A plan indicating how the proposed stream diversion will provide fish passage on streams identified as having a fishery value. Streams along the project that have a fishery resource value are identified in the Stream Protection Authorization 124 special provision.

For all detour and work bridges have you included the following?

- A plan sheet or drawing that shows a plan and cross-sectional view of the proposed temporary bridge.
- The dates the detour and/or work bridge will be in place.
- A water-surface elevation for Q2 and Q100, indicated on the bridge cross-section.

APPENDIX C

Project Type: <u>Culverts - Replacement or New</u>	Typical Actions:	Resource:	(a) severity, duration, geographic extent, & frequency	(b) probability of occurrence	(c) growth-inducing or growth-inhibiting	(d) quantity and quality of resources that would be affected	(e) importance of that resource to the state and society	(f) precedent-setting	(g) potential conflict with local, state, or federal laws	Mitigations to move anticipated impacts below significance
	1) Create a temporary bypass of water flow or pump around the location 2) Remove roadway and fill from the top of culvert 3) Install new culvert 4) Rebuild road above culvert 5) Return flow from bypass to new culvert	Fish & Wildlife	minor, short-term, site-specific, once <u>impact</u>: none to wildlife, minor to fish	likely	none	may contain fish/amphibian habitat - quality & quantity of the habitat may be various levels per site <u>impact</u>: none to minor adverse for wildlife (displacement), minor adverse (displacement) and likely beneficial for fish (better passage)	very important	unlikely	unlikely	1) Incorporate fish passage devices when necessary 2) Embed a minimum of 20% 3) Culvert allows for fish to pass 4) Avoid spawning or migration seasons 5) Culvert needs to span the active channel width 6) If road is being realigned, the old roadway/old culvert location need to be reclaimed/restored, unless otherwise negotiated. The culvert needs to be set at the correct grade and slope to allow fish passage and minimize erosion. 7) To prevent the spread of aquatic invasive species, to the extent practical, remove mud and aquatic plants from heavy machinery and other equipment before moving between waters and work sites, especially in waters known to be infested with aquatic invasive species. Drain water from machinery and let dry before moving to another location.
		Vegetation	minor to moderate, short-term, site-specific (roadway corridor), once <u>impact</u>: minor adverse (e.g. removal of site vegetation)	likely	disturbed areas could become infested with noxious weeds	limited to site; variable depending upon the site <u>impact</u>: minor to moderate adverse (e.g. disturbances to existing vegetation)	some importance	unlikely	unlikely	1) Reseed/restore disturbed areas 2) Minimize the spread of noxious weeds – control, management 3) Avoid riparian/wetlands when practicable
		Soils	minor to moderate, short term, site specific (roadway corridor), once <u>impact</u>: minor adverse (e.g. change in soil stability)	likely	none	depends on the size of the culvert; minor importance	minor to some importance	unlikely	unlikely	1) Complete during low-water periods 2) Installation of erosion/sediment control devices

		Water	minor; short-term; site-specific; once	very likely	none	the quantity of water at the site should not be affected by activities; water quality may be negatively impacted for a short time by construction activities (sediment, turbidity)	important to very important depending upon the water body	unlikely	unlikely	1)Obtain other permits (floodplain, 404, Sec 10, & 318) and meet those other permit conditions 2)If applicant is state or federal, meet analysis requirements of NEPA or MEPA 3)Use diversion devices to maintain water flow 4)Operate equipment in dry stream channel or top of bank, with sediment-control devices used as necessary to maintain water quality
		Air/Noise	none to minor; short-term; site-specific; once	likely with the use of heavy equipment	none	Short-term impacts expected in the immediate area	some importance	unlikely	unlikely	
		Land Use	none; long-term; site-specific; once	likely	none	no change in land use; work would be within roadway corridor (old); some land-use changes may occur, if road is realigned, or if it is a new crossing or new road	minor importance - roadway	unlikely	unlikely	
		Community	none; none; potentially site-specific; permanent	very low	none	no changes to communities	important	unlikely	unlikely	
		Aesthetics/ Recreation	minor (inconvenience during construction); short-term; site-specific; once	depends on the location of culvert and nearby recreational opportunities	if new, could assist to increase recreation in the area	none to potentially beneficial	very important	unlikely	unlikely	

		Historical/ Cultural	none; none; potentially site-specific; once	unknown to low; area likely already disturbed from previous activities within roadway corridor. Some impacts may occur if it is a new road, but may avoid impacts if SHPO consultation is considered early.	none	unknown to potentially important; site-specific	important	unlikely	unlikely	If state-owned property, consultation requirements with the State Historic Preservation Office would be followed (22-3-433 MCA)

APPENDIX D

Project Type: Bridges Improvements/ Replacements	Typical Actions:	Resource:	(a) severity, duration, geographic extent, & frequency	(b) probability of occurrence	(c) growth-inducing or growth-inhibiting	(d) quantity and quality of resources that would be affected	(e) importance of that resource to the state and society	(f) precedent-setting	(g) potential conflict with local, state, or federal laws	Mitigations to move anticipated impacts below significance
	1) Install temporary detour or work bridge. 2) Remove existing bridge structure. 3) Install new bridge. 4) Remove all temporary structures	Fish & Wildlife	minor, short-term, site-specific, once impact: none to wildlife, none to minor to fish	likely	none	may contain fish/amphibian habitat - quality & quantity of the habitat may be various levels per site impact: none to minor adverse for wildlife (displacement), minor adverse (displacement) for fish (better passage)	very important	unlikely	unlikely	1) Avoid critical habitat, spawning and migration seasons when practicable 2) If water is needed, appropriate device to avoid fish entrainment is used 3) Restore stream substrate/ channel banks 4) Incorporate topsoil into riprap voids and include viable plant material and/or root stock to the extendt practicable. 5) Avoid using geotextile fabric as a riprap underlayment.
		Vegetation	minor to moderate, short-term, site-specific (roadway corridor), once impact: none to minor adverse (e.g. removal of vegetation)	likely	disturbed areas could become infested with noxious weeds	limited to site; variable depending upon the site impact: minor to moderate adverse (e.g. disturbance to existing vegetation)	some importance	unlikely	unlikely	1) Restore disturbed banks/construction areas 2) Control noxious weed infestations 3) Topsoil reseeded when riprap is used on bridge abutments
		Soils	minor to moderate, short-term, site-specific (roadway corridor), once impact: minor adverse (e.g. change to soil stability)	likely	none	depends on the size of the bridge; minor importance	minor to some importance	unlikely	unlikely	1) Complete during low water periods 2) Install erosion/sediment control devices

		Water	minor; short-term; site-specific; once	very likely	none	the quantity of water at the site should not be affected by activities; water quality may be negatively impacted for a short time by construction activities (sediment, turbidity)	important to very important depending upon the water body	unlikely	unlikely	1) Obtain other permits (floodplain, 404, Sec 10, & 318) and meeting those other permit conditions 2) If applicant is state or federal, meet analysis requirements of NEPA or MEPA 3) Use diversion devices to maintain water flow 4) Operate equipment in dry stream channel or top of bank 5) Take steps to avoid materials/dust/paint being washed/swept into water 6) Restore stream substrate/ channel banks 7) Design bridge to span full bank width when practicable 8) Bridges need to pass 100-yr flow without back water if the location has been mapped by FEMA. Additionally, bridge curbing and appropriate approach drainage should be used to reduce directing runoff into the waterway when practicable
		Air/Noise	none to minor; short-term; site-specific; once	likely with the use of heavy equipment	none	Short-term impacts expected in the immediate area	some importance	unlikely	unlikely	
		Land Use	none; long-term; site-specific; once	likely	none	no change in land use; work would be within roadway corridor (old); some land-use changes may occur if road is realigned; if replace project, likely continuing long-term situation	minor importance - roadway	unlikely	unlikely	
		Community	none; none; site specific and possibly local area; permanent	infrequently	may contribute to growth in area	no changes to actual community(ies)	important	unlikely	unlikely	

		Aesthetics/ Recreation	minor (e.g. inconvenience during construction); short-term; site-specific; once	infrequently	if new, could assist in increasing recreation in the area	none to potentially beneficial	very important	unlikely	unlikely; would follow state/county stream access laws	
		Historical/ Cultural	none; none; potentially site-specific; once	unknown to low; area likely already disturbed from previous activities within roadway corridor	none	unknown to potentially important; site-specific	important	unlikely	unlikely	If state-owned property, comply with SHPO and MT Antiquities laws

APPENDIX E

Project Type: <u>Beaver Dam Removal</u>	Typical Actions:	Resource:	(a) severity, duration, geographic extent, & frequency	(b) probability of occurrence	(c) growth-inducing or growth-inhibiting	(d) quantity and quality of resources that would be affected	(e) importance of that resource to the state and society	(f) precedent-setting	(g) potential conflict with local, state, or federal laws	Mitigations to move anticipated impacts below significance
	1) Manually or mechanically remove debris 2) Trap & relocate or kill beaver	Fish & Wildlife	moderate to major (total removal); permanent to short-term; site-specific; once to multiple times in a location over time	very likely	could increase water flows downstream; may decrease beaver population in the immediate area if lethal removal is used	beavers are seen as a habitat engineer, pest, and economic commodity (pelts); lethal removal may affect more than one animal but doesn't threaten this species in MT overall	minor importance	unlikely	unlikely	1) If no lethal removals are planned, dam removal should be completed after mid-June, so that beaver and fish mortalities are minimized. 2) If lethal beaver removal is necessary, a FWP-issued damage permit is required that will specify how many beavers can be removed in order to protect public safety and/or private property. 3) Protective infrastructure devises can be installed to decrease repeated actions at the same location.
		Vegetation	none to minor to living vegetation; short-term; site-specific; once to multiple times in a location over time	low	short-term flooding of areas below dam may help regenerate some vegetation	Site-dependent, but minimal impact to vegetation is anticipated	important	unlikely	unlikely	1) Avoid disturbances to natural materials (embedded logs) and vegetation that contribute to habitat or stream stability.
		Soils	none to minor; short-term; site-specific; once	likely with the use of heavy equipment; unlikely if done manually	none	very small area with minimal influences	some importance	unlikely	unlikely	1) Incremental reduction of dam height will reduce rapid release of sediment load downstream 2) Use of excavators with grabbers will reduce sediment disturbances

		Water	minor; short-term or permanent; site-specific; once to multiple times in a location over time	likely	none	site and size of dam dependent; overall impacts are minor	some importance	unlikely	unlikely	1) Obtaining other permits (floodplain & 318) and meeting those other permit conditions 2) If applicant is state or federal, meeting analysis requirements of NEPA or MEPA 3) Diverting or reducing water level during dam removal 4) Placing any spoil material in a location that ensures sediment and debris do not enter waterways
		Air/Noise	none to minimal; short-term; site-specific; once	mechanical removal - likely	none	Short-term impacts expected in the immediate area	some importance	unlikely	unlikely	
		Land Use	none; short-term; site-specific; once	none	none	no change in land use; work would be within water corridor	some importance	unlikely	unlikely	
		Community	none; short-term; site-specific; once	none	none	no change to community resources	little importance	unlikely	unlikely	Notification to downstream landowners if flooding is likely when dam is removed
		Aesthetics/ Recreation	none to minor; short-term; site-specific; once	unlikely	none	no change to recreational resources; could have minor impact to aesthetics at the site and short-term downstream	important	unlikely	unlikely	
		Historical/ Cultural	none; short-term; site-specific; once	unlikely	none	no change to historical or cultural resources	important	unlikely	unlikely	If state-owned property, consultation requirements with the State Historic Preservation Office would be followed (22-3-433 MCA)